

# **Bowl from a Board**

By Jeff Matter

Here is a simple way to make a stunning bowl from just scrap sticks of wood I'm sure everyone has lying around their shop.

First, collect up your scrap and mill them (if necessary) all to the same thickness. For this tutorial, I will use  $\frac{3}{4}$  stock. You can use thicker or thinner if you like but it can affect the glued up "rough" thickness. You will see why later when I get to cutting the rings. Make sure your pieces are as long as you want your bowl wide. I want to make this bowl 12" so I need 12" long strips. The strips can be various widths or all the same width. You can use only 2 pieces (2- 6" x 12") or any combination of like or different woods. I am going to use Brazilian Cherry, Maple, and Walnut. Make sure the edges are straight and square. When placed together, you should not be able to see light thru the joint. I use a flat piece of MDF with a sheet of 120 grit sandpaper glued to it to flatten and clean up the edges. Make sure you do not rock the piece while sanding.

Here I have six strips of wood, two of each species, 2" x 12" x  $\frac{3}{4}$ " ready to be glued together.



I will glue them together in sets of three so that I end up with two 6" x 12" boards. If you have more strips and different size strips, it is not important to have the joint right in the center, but it makes things easier.



After the pieces have dried, I clean up the glue. If you have a planer or drum sander, it is nice to run the boards thru to flatten them. This is not necessary if you do not have those tools, so I did not do this.

I tape the two boards together and find the center.



I then determine what the base diameter will be. I want the very bottom to be at least 3". I will be cutting the half circles on the band saw at a 45 degree angle, so if my piece is 3" diameter at the bottom,  $\frac{3}{4}$  thick @ a 45 would make the diameter at the top of the board 4  $\frac{1}{2}$ ". So I draw a 4  $\frac{1}{2}$  circle.



Now this is where you can change the shape of your bowl rather than a straight 45, you can change the angles to make it a hyperbolic, which I will show later.

For demo purposes, I will make this bowl a straight 45.

I open the pieces and draw a 45 down from my first circle showing where it will end up on the bottom side of the board. Then I will square down from that same mark, mark the bottom, and 45 back up towards the top. This will be my diameter for my next cut.



Of course, if you were to make yours a straight 45, you would just add  $\frac{3}{4}$ " (if your thickness is  $\frac{3}{4}$ " ) to each radius when you draw your circles. After drawing your circles, its time to cut them out on the band saw. Cut carefully staying on your lines, even a stray off the line  $\frac{1}{8}$  of an inch can affect it. Possibly leaving a low spot that may require a bit more cutting (and thinning of sides).

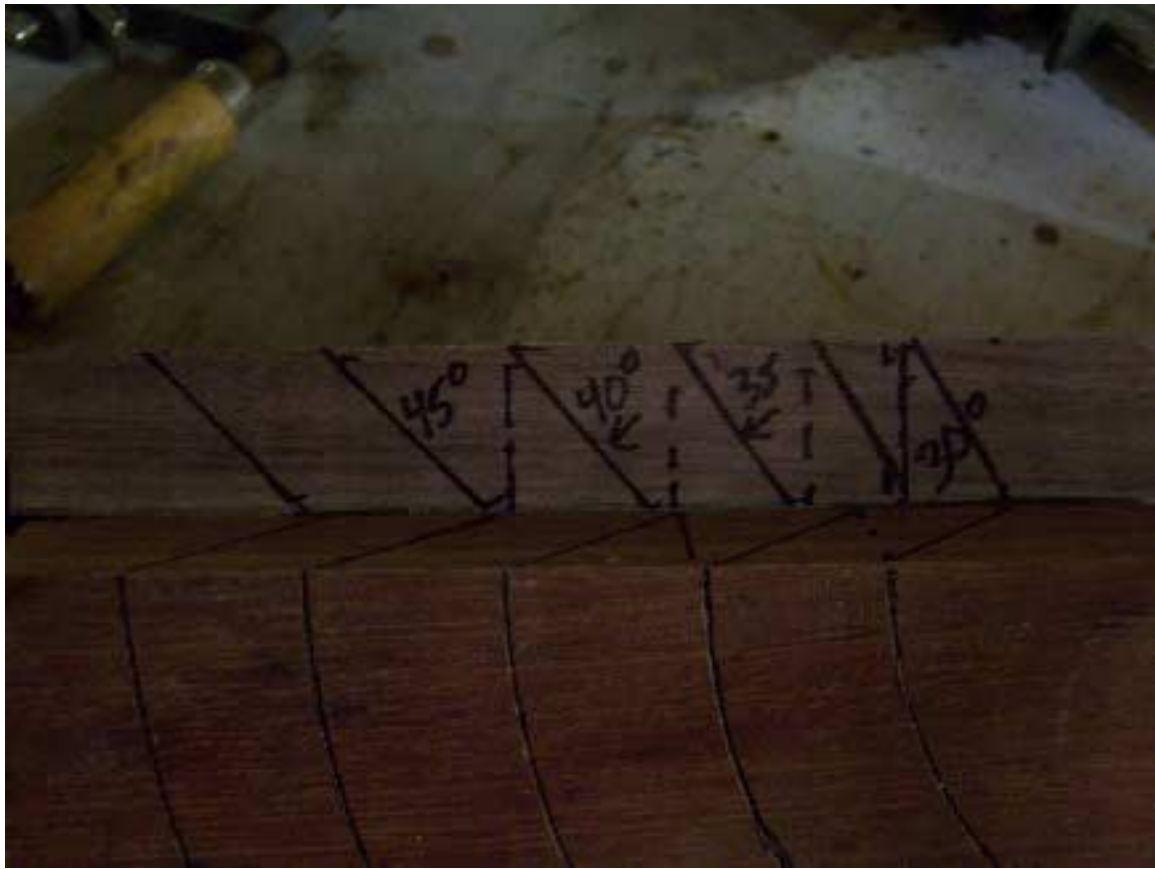




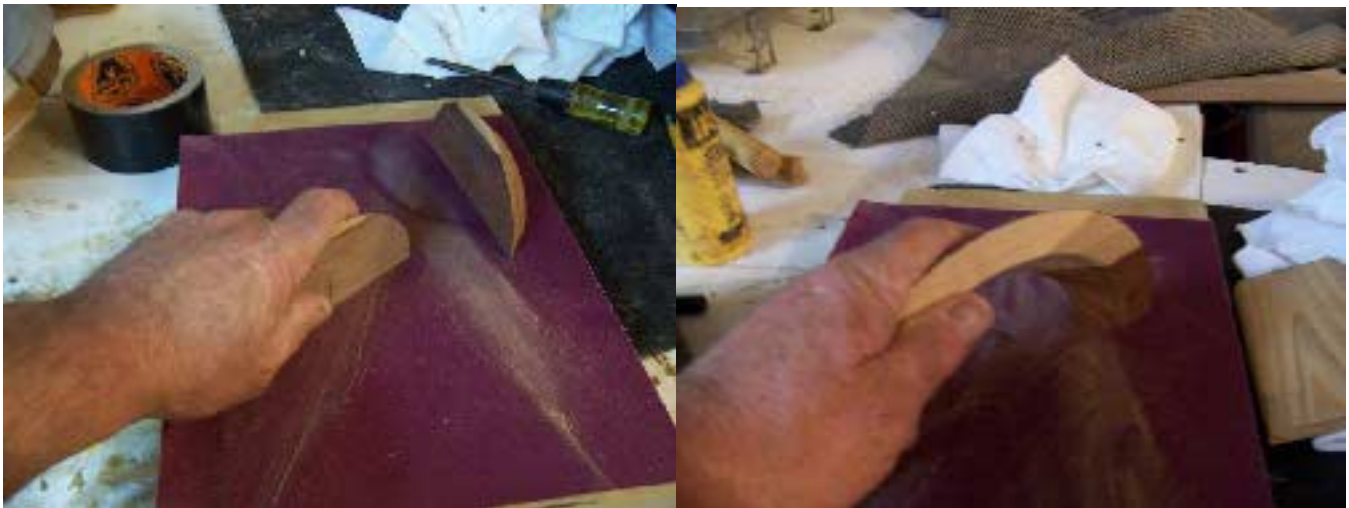
All the half rings cut and ready to glue.



If you want to change the shape of the bowl and make it flare out at the top, you can do that by changing the angles on the band saw for each ring cut. Using the same method as before, drawing your angle, squaring down, drawing the next, ect. Let us say, my first cut is a 30, next 35, next 40 next 45, and last 45. It would look like this laid out on the edge of the board. This will give the bowl a flare at the top



I will clean up the joints by rubbing them on a sheet of sandpaper glued to a flat board

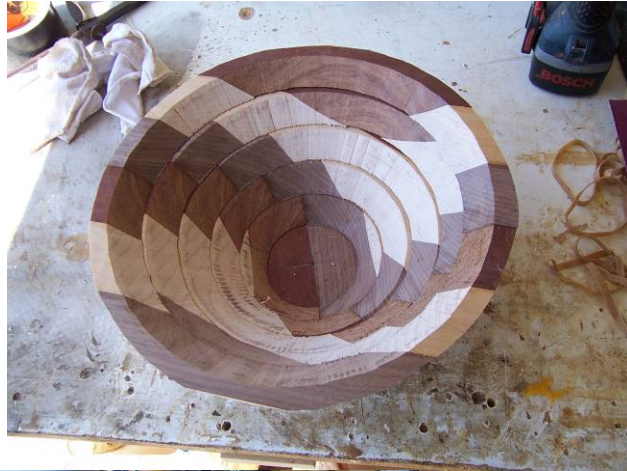


A little glue is applied the half rings are rubbed together. I then use rubber bands to hold the two half rings together. Sometimes using rubber bands can be tricky. By pulling more tension on one side can cause the ring to flip. Make sure you do not apply too much pressure to the larger rings. This could cause them to flex a bit, opening up the joint



All the rings glue up and ready decide how I am going to stack them. I can shift the pattern clockwise, counter clockwise, and alternate, align, or whatever I like.





I chose to offset each ring  $\frac{1}{2}$ " from the center glue joint.





Now prepare a faceplate of MDF or plywood to true up or flatten the bottoms of each ring. The first couple I will sand the bottoms flat on the disc sander because they are small. After truing up the faceplate, while the lathe is running, I draw some circles on the face about  $\frac{1}{4}$ " or  $\frac{3}{8}$ " apart.....this is just for a centering reference when I hot melt the rings onto the faceplate. The rest of the rings are mounted to the faceplate with hot melt glue (about four or five dabs around the perimeter), one by one, and trued up. A straight edge is used to check the plane of the ring. Once it is smooth and flat, I use the flat piece with sandpaper glued to it to sand the bottom of the ring by holding against the bottom as the lathe turns at its slowest speed. You must start square to the piece as not to sand off any of the outer edge. If it jumps around or vibrates, that probably means the ring is not flat but convex. You will have to re-true it. If the board does not jump around, but only seems to have sanded the outside, then it is concave. You can continue to sand until you see the whole surface has been sanded.



To remove the ring I just tugged it a little until it pops off. If you feel it may break the ring then use a hot putty knife to slide under the glued up area.

I have trued up all my rings and now glue and screw a waste block to the faceplate to mount the base.



After rounding and truing up the block, I mount the base piece.



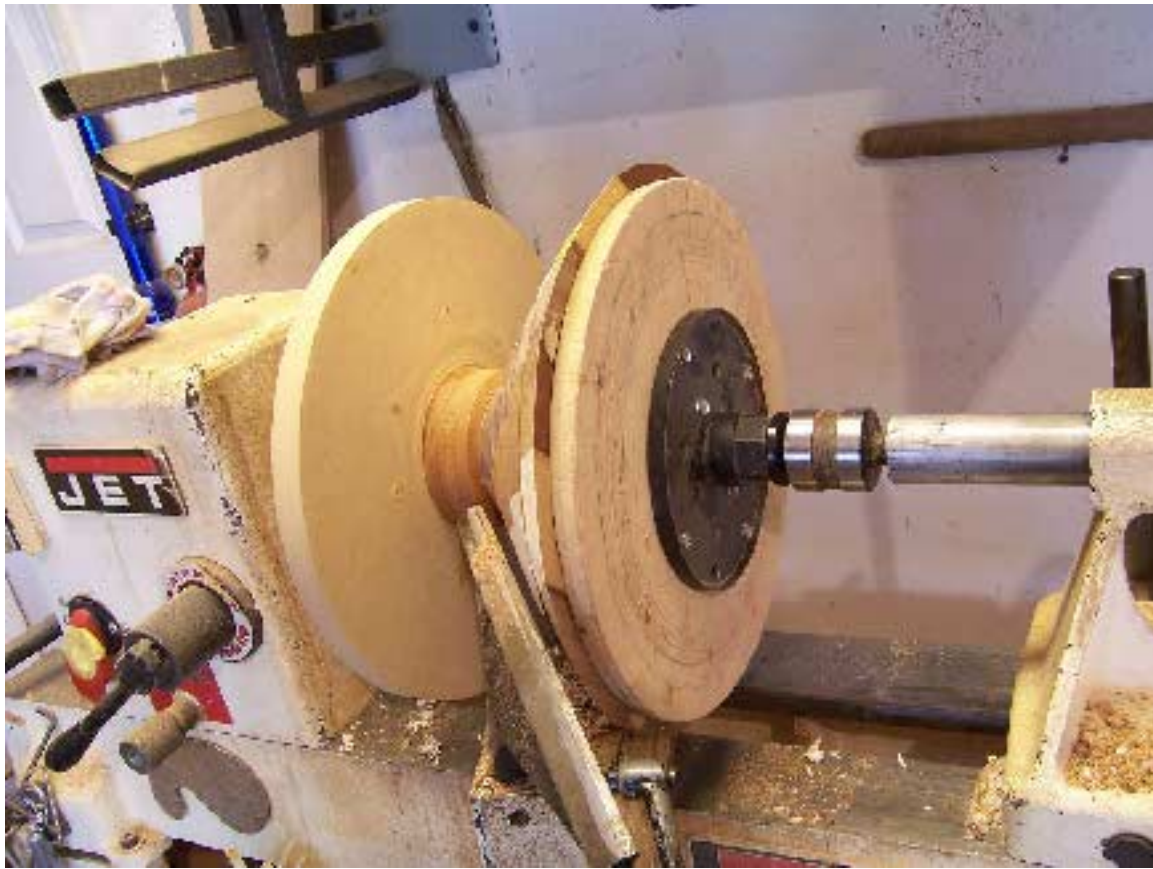
Once it has dried, I true up the face, sand with flat board and glue each ring on consecutively.





I have a disc with a rubber pad glued to it to press on the ring (with pressure from the tailstock). You can just use any flat disc though. Notice I lined up the 1/2" marks I made on each ring with the joint of the previous ring





After all the rings have been glued and dried, I prepare to turn the outside. I true the face of the last ring and bring up the tailstock with a disc to stabilize the bowl for rough turning. You will probably notice that the walls are already only about a 1/2" thick so there is not much turning involved. Remember that most of the wood you will be cutting is end grain, so make sure tools are sharp, speed is as fast as you are comfortable with, and use very light cuts.

Here is an example of a poor band saw cut that will force me to make thin walls or cut the whole ring off. I have already shaped the outside, but I am left with the last ring a little low. I had enough wood on the outer edge of my board (when I was cutting the rings on the band saw) to try and get another ring out if it, unfortunately it was only 5/8" thick

rather than a  $\frac{3}{4}$ " ....I did try.....and now I either lose it or make it thin.....Hmmm.....thin is in!!

The wall of the bowl is already at  $\frac{3}{8}$  and I have not even touched the inside yet.....but I am going for it!



I turn the outside, scrape it and sand it with 100 grit. Since I used a small ring for the last ring you will notice I had to round the top of the bowl to it.....I call that a minor design change.

I don't have a bowl steady, so if the bowl is larger than 8", then I will hot melt glue some stabilizing blocks to the sides in order to turn the inside. (That is why my faceplate was so large). I cut the MDF blocks to fit the slight curve I have to the bowl, then adjust the cut against the faceplate until it fits nicely at all contact points.

The walls are thin enough to flex while cutting so some stability is needed.



Makes for a nice fan too!

Of course, do not crank your lathe up high speed. If you are worried about the blocks coming off, you can run duct tape around the whole thing to keep them contained, but I personally have never had a problem.

I turn the inside, scrape, it sand it, then remove the blocks (once again with a hot putty knife if necessary).





Partially part it off, finish sand the whole thing,  
Cut remaining bottom with flush saw, reverse and finish bottom, and  
apply your favorite finish.



This method can be used with any size wood and any number of combinations. I have made small 5” bowls from pen blanks up to a 16” bowl from a 40 piece segmented flat disk. You can twist and turn the rings to make an endless amount of patterns. Let your mind go wild!